THE CLAIMS

· The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1.   (Currently Amended) An audio distortion processing system comprising:

a first processing unit ~~adapted to be in communication with~~ that receives an audio signal from an audio source, wherein said first processing unit controls a plurality of parameters for said audio signal;

~~a plurality of inputs in communication with said first processing unit, said plurality of inputs respectively indicating values of said plurality of parameters;~~

a power amplifier in electrical communication with said first processing unit for receiving an output signal of said first processing unit, said power amplifier selectively generating a clipping signal, said power amplifier adapted to be in communication with at least one speaker;

a second processing unit in electrical communication with said power amplifier and said first processing unit for receiving said clipping signal from said power amplifier and sending control signals to said first processing unit; and

a plurality of inputs in communication with said second processing unit, said plurality of inputs respectively indicating values of said plurality of parameters;

wherein said control signals initiate an incremental reduction in a level of a first narrowband parameter of said plurality of parameters until one of ~~either~~ either said clipping signal recedes or a reduction limit of said first narrowband parameter is achieved and then incremental reduction in a level of a second wideband parameter

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of said plurality of parameters if a reduction limit of said first narrowband parameter is achieved and said clipping signal persists, thereby reducing distortion in said audio signal;,

wherein said second processor determines that said level of said second wideband parameter has been reduced in response to said clipping signal before said second processor determines that said level of said first narrowband parameter has been reduced in response to said clipping signal, and

wherein said control signals initiate an incremental recovery of an original level of said second wideband parameter if said clipping signal is not detected and then an incremental recovery of an original level of said first narrowband parameter ensures-if said original level of said second wideband parameter is fully recovered and said clipping signal is not detected, wherein said incremental recovery of said original level of said second wideband parameter followed by said incremental recovery of said original level of said first narrowband parameter reduces a noticeable change in an audible output of the system caused by operations of said second processing unit.

2.   (Currently Amended) The audio distortion processing system of claim 1, wherein said reduction limit of said first narrowband parameter is a function of a first input of said plurality of inputs.

3.   (Currently Amended) The audio distortion processing system of claim 1, wherein said reduction limit of said first narrowband parameter is equal to one half of said original level of said first narrowband parameter.

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4.   (Currently Amended)   The audio distortion processing system of claim 1, wherein said reduction limit of said second wideband parameter is a function of said reduction limit of said first narrowband parameter.

5.   (Currently Amended)   The audio distortion processing system of claim 1, wherein a reduction limit of said second wideband parameter is equal to the difference between a maximum reduction value of said second wideband parameter and said reduction limit of said first narrowband parameter.

6.   (Currently Amended) The audio distortion processing system of claim 1, wherein said first narrowband parameter is bass and a corresponding first input of the plurality of inputs is operator selectable bass boost.

7.   (Currently Amended)   The audio distortion processing system of claim 16, wherein said second wideband parameter is volume and a corresponding second input of the plurality of inputs is operator selectable volume level.

8.   (Currently Amended) A method for controlling distortion in an audio signal received in an audio system having a first narrowband parameter and a second wideband parameters wherein each of said first narrowband parameters and said second wideband parameter is a function of an operator input, and method comprising the steps of:

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determining a reduction limit of said first narrowband parameter;

determining a reduction limit of said second wideband parameter;

detecting a clipping signal in said an audio system signal;

incrementally reducing a level of said first narrowband parameter until one of either said clipping signal recedes or said reduction limit of said first narrowband parameter is achieved;

incrementally reducing a level of said second wideband parameter if said reduction limit of said first narrowband parameter is achieved and said clipping signal persists, thereby reducing distortion in said audio signal;

determining that said level of said second wideband parameter has been reduced in response to said clipping signal and then determining that said level of said first narrowband parameter has been reduced in response to said clipping signal; and

incrementally recovering an original level of said second wideband parameter if said clipping signal is not detected and then incrementally recovering an original level of said first narrowband parameter if said original level of said second wideband parameter is fully recovered and said clipping signal is not detected, wherein said incrementally recovering said original level of said second wideband parameter and said incrementally recovering said original level of said first narrowband parameter reduce a noticeable change in an audible output of the system.

9.   (Currently Amended)   The method of claim 8, wherein said first narrowband parameter is a bass parameter and said second wideband parameter is a volume parameter.

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10.   (Currently Amended) The method of claim 8, wherein said reduction limit of said first narrowband parameter is a function of an operator input.

11.   (Currently Amended) The method of claim 8, wherein said reduction limit of said first narrowband parameter is equal to one half of an operator selectable first narrowband parameter level.

12.   (Currently Amended) The method of claim 8, wherein said reduction limit of said second wideband parameter is a function of said reduction limit of said first narrowband parameter.

13.   (Currently Amended) The method of claim 8, wherein said reduction limit of said second wideband parameter is equal to the difference between a maximum reduction limit of said second wideband parameter and said reduction limit of said first narrowband parameter.

14.-- 18. (Canceled)

19.   (New) The audio distortion processing system of claim 1, further comprising the at least one speaker that generates said audible output based on said audio signal and said control signals, wherein said reduction in said noticeable change

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in said audio signal caused by operations of said second processing unit is detectable in said audible output.

20.   (New) The audio distortion processing system of claim 1, wherein said audible output is based on said audio signal after said distortion is reduced for said audio signal.